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AMENDMENTS TO THE CLAIMS

Please **CANCEL** claims 2, 8, 15, 19 and 22 without prejudice or disclaimer.

Please **AMEND** claims 1, 3-7, 9-14, 16-18, 20-21 and 23-27 as shown below.

Please **ADD** claims 28-29 as shown below.

This listing of claims as follows will replace all prior versions, and listings, of claims in the application:

1)1. (Currently Amended) ~~In a~~ A fuel cell comprising:

- A) a polymer electrolyte membrane;
- B) ~~a fuel electrode or~~ an anode;
- C) ~~an oxidation electrode or~~ a cathode; and
- D) appropriate conductors for the supply of electrical current to an electrical load,

~~the improvement comprising the use of a porous, coal-based, carbon foam as either or both of said anode and said cathode~~ wherein at least one of said anode and said cathode comprises a coal-based carbon foam produced from particulate coal of a small diameter and exhibits a density in the range of about 0.1 g/cm³ to about 0.8 g/cm³, a thermal conductivity of below about 1 W/m/°K and a pore size below about 2000 μm.

2. (Cancelled)

3)3. (Currently Amended) The fuel cell of claim 2 1 wherein said small diameter is less than about 1 mm.

4)4. (Currently Amended) The fuel cell of claim 2 1 wherein said coal-based carbon foam has a compressive strength below about 6000 psi.

5)5. (Currently Amended) The fuel cell of claim 1 wherein said coal-based carbon foam is prepared from bituminous coal.

~~6)~~6. (Currently Amended) The fuel cell of claim ~~[[4]]~~ 5 wherein said bituminous coal has a swell index of between about 3 and about ~~5~~ 9.

~~7)~~7. (Currently Amended) The fuel cell of claim ~~[[4]]~~ 5 wherein said bituminous coal has a Gieseler plasticity value above about 500DDPM.

8. (Cancelled)

~~9)~~9. (Currently Amended) The fuel cell of claim ~~8~~ 1 wherein said coal-based carbon foam exhibits a pore size below about 100 μ .

~~10)~~10. (Currently Amended) The fuel cell of claim ~~2~~ 1 wherein said coal-based carbon foam has been graphitized at a temperature between about 1600°C and ~~2600~~3000°C.

~~11)~~11. (Currently Amended) The fuel cell of claim ~~9~~ 10 wherein said coal-based carbon foam has been graphitized at a temperature between about 1800°C and about 2200°C.

~~12)~~12. (Currently Amended) The fuel cell of claim ~~9~~ 11 wherein said coal-based carbon foam has been graphitized at a temperature of about 2200°C.

~~13)~~13. (Currently Amended) The fuel cell of claim ~~2~~ 1 wherein said coal-based carbon foam is prepared by a process comprising the steps of:

- A) comminuting coal to a small particle size to form a ground coal;
- B) placing said ground coal in a mold;
- C) heating said ground coal in said mold under a non-oxidizing atmosphere to a temperature of between about 300° C and about 700° C and soaking at this temperature for a period of from about 10 minutes to about 12 hours to form an electrode preform;
- D) controllably cooling said electrode preform; and
- E) graphitizing said electrode preform at a temperature between about 1600°C and ~~2400~~3000°C.

~~14)~~14. (Currently Amended) ~~In an~~ An electrical cell for the generation or storage of electrical power through an electrochemical reaction ~~and~~ comprising:

- A) an anode;
- B) a cathode; and
- C) appropriate conductors for the supply of electrical current to an electrical load,

~~the improvement comprising the use of a porous carbon foam as either or both of said anode and said cathode~~ wherein at least one of said anode and said cathode comprises a coal-based carbon foam produced from particulate coal of a small diameter and exhibits a density in the range of about 0.1 g/cm³ to about 0.8 g/cm³, a thermal conductivity of below about 1 W/m/°K, and a pore size below about 2000 μm.

15. (Cancelled)

~~16)~~16. (Currently Amended) The electrical cell of claim 14 wherein said ~~coal-based carbon foam is derived from a~~ particulate coal having has a swell index of between about 3 and about 9.

~~17)~~17. (Currently Amended) The electrical cell of claim ~~15~~ 16 wherein said particulate coal has a swell index is of about 4.

~~18)~~18. (Currently Amended) The electrical cell of claim 14 wherein said ~~carbon foam is derived from a~~ particulate coal having has a Gieseler plasticity value above about 500 DDPM.

19. (Cancelled)

~~20)~~20. (Currently Amended) The electrical cell of claim ~~18~~ 14 wherein said small diameter is less than about 1 mm.

~~21)~~21. (Currently Amended) The electrical cell of claim ~~18~~ 14 wherein said coal-based carbon foam has a compressive strength below about 6000 psi.

22. (Cancelled)

~~23)~~23. (Currently Amended) The electrical cell of claim ~~21~~ 14 wherein said coal-based carbon foam exhibits a pore size below about 100µm.

~~24)~~24. (Currently Amended) The electrical cell of claim 14 wherein said coal-based carbon foam has been graphitized at a temperature between about 1600°C and ~~2600~~3000°C.

~~25)~~25. (Currently Amended) The electrical cell of claim ~~23~~ 24 wherein said coal-based carbon foam has been graphitized at a temperature between about 1800°C and about 2200°C.

~~26)~~26. (Currently Amended) The electrical cell of claim ~~24~~ 25 wherein said coal-based carbon foam has been graphitized at a temperature of about 2200°C.

~~27)~~27. (Currently Amended) The electrical cell of claim 14 wherein said carbon foam is prepared by a process comprising the steps of:

- F) comminuting coal to a small particle size to form a ground coal;
- G) placing said ground coal in a mold;
- H) heating said ground coal in said mold under a non-oxidizing atmosphere to a temperature of between about 300° C and about 700° C and soaking at this temperature for a period of from about 10 minutes to about 12 hours to form an electrode preform;
- I) controllably cooling said electrode preform; and
- J) graphitizing said electrode preform at a temperature between about 1600°C and ~~2400~~3000°C.

28. (New) A fuel cell comprising:
polymer electrolyte membrane;

an anode;
a cathode; and
appropriate conductors for the supply of electrical current to an electrical load,
wherein at least one of said anode and said cathode comprises a coal-based carbon foam
produced by the process comprising:

comminuting coal to a small particle size to form a ground coal;
placing said ground coal in a mold;
heating said ground coal in said mold under a non-oxidizing atmosphere to a
temperature of between about 300° C and about 700° C and soaking at this temperature
for a period of from about 10 minutes to about 12 hours to form an electrode preform;
controllably cooling said electrode preform; and
graphitizing said electrode preform at a temperature between about 1600°C and
~~2400~~3000°C,

wherein said coal-based carbon foam exhibits a density in the range of about 0.1 g/cm³ to about
0.8 g/cm³, a thermal conductivity of below about 1 W/m/°K, and a pore size below about 2000
µm.

29. (New) An electrical cell for the generation or storage of electrical power through an
electrochemical reaction comprising:

an anode;
a cathode; and
appropriate conductors for the supply of electrical current to an electrical load,
wherein at least one of said anode and said cathode comprises a coal-based carbon foam
produced by the process comprising:

comminuting coal to a small particle size to form a ground coal;
placing said ground coal in a mold;
heating said ground coal in said mold under a non-oxidizing atmosphere to a
temperature of between about 300° C and about 700° C and soaking at this temperature for a
period of from about 10 minutes to about 12 hours to form an electrode preform;
controllably cooling said electrode preform; and

graphitizing said electrode preform at a temperature between about 1600°C and ~~2400~~3000°C;

wherein said carbon based foam exhibits a density in the range of about 0.1 g/cm³ to about 0.8 g/cm³, a thermal conductivity of below about 1 W/m/°K, and a pore size below about 2000 μm.